



Supplementary Fig. S1 Illustration of placing the expiry date on the fixative containers.

Supplementary Table S1 Acceptable thresholds for preanalytical factors based on literature evidence for specific analytes^d

Preanalytical factor	DNA	RNA	Protein	Morphology
Postmortem interval	<48 h for FISH, ≤4 d for PCR	<4 h	Evidence was insufficient	Evidence was not available
Cold ischemia time	<1 h for FISH, <24 h for PCR	<12 h	<12 h	<6 h
Warm ischemia time	Evidence was insufficient	Evidence was not available	Evidence was not available	Evidence was not available
Specimen size	3–10 mm ³	Evidence was not available	1.2–3.5 mm	Evidence was not available
Prefixation handling	Evidence was not available	Evidence was not available	Thresholds are antigen-specific	Thresholds are tissue- and method-specific
Decalcification	EDTA	Ultrasound or EDTA	Thresholds are tissue- and antigen-specific	Ultrasound, EDTA, nitric, formic, or acetic acid; DECAL ^a , cal-Ex ^b , D-calcifer ^c , Plank-Rychlo's, Ebner's, or Jenkin's solution
Tissue fixative ratio	Evidence was not available	Evidence was not available	1:1 to 1:20 ratio	Evidence was not available
Fixative buffer	NBF	NBF	NBF	Evidence was not available
Fixative delivery method	Immersion, microwave-accelerated, or ultrasound-accelerated	Immersion, microwave-accelerated, or ultrasound-accelerated	Immersion, perfusion, injection, heat-accelerated, microwave-accelerated, or ultrasound-accelerated	Immersion, perfusion, microwave-accelerated, or ultrasound-accelerated
Fixative concentration	Evidence was not available	Evidence was not available	10 or 15% NBF	4% formaldehyde for immersion fixation, 0.5–1% NBF for microwave-accelerated fixation
Fixation duration	<72 h	8–48 h	6–24 h	<1 y
Fixation temperature	4°C or ambient	4°C or ambient	4°C or ambient	Evidence was not available
Dehydration reagent and conditions	Evidence was not available	Evidence was not available	5–10 h at 37–45°C, 10 h at 20°C, or 10–11 h at 4°C	Evidence was insufficient
Clearing reagent and condition	Evidence was not available	Evidence was not available	30 min to 4 h at 45°C or 4°C	Evidence was insufficient
Paraffin embedding reagent and condition	Pure paraffin	Evidence was not available	Evidence was not available	Evidence was insufficient
Duration of paraffin block storage	≤5 y	≤1 y	≤25 y for IHC, <10 y for platforms requiring protein extraction	Evidence was insufficient
FFPE block size or section thickness	Evidence was not available	Evidence was not available	2–4 µm	2–3 µm
Type of slide or adhesive	Evidence was not available	Evidence was not available	Evidence was insufficient	Evidence was insufficient
Slide drying duration and temperature	Evidence was not available	Evidence was not available	24 h at ambient overnight at 37°C, 16–24 h at 58–68°C	Evidence was not available
Tissue section storage	Insufficient evidence	<3 mo at ambient	<1 wk	Evidence was not available

Abbreviations: EDTA, ethylene diamine tetra-acetic acid; FFPE, formalin-fixed paraffin-embedded; FISH, fluorescence in situ hybridization; IHC, immunohistochemistry; NBF, neutral-buffered formalin, PCR, polymerase chain reaction.

^aDECAL (Decal Chemical Corp, Pomona, New York, United States).

^bCal-Ex (Fisher Scientific Co, Fair Lawn, New Jersey, United States).

^cD-calcifer (Lerner Laboratories, Pittsburgh, Pennsylvania, United States).

^dThe table has been adapted from Ref #55 (Bass BP et al., 2014)